

REMARKS

Upon entry of the present amendment, claims 7, 12, 20 and 26 will be canceled without prejudice or disclaimer of the subject matter recited therein; and claims 1, 13, 18, 21 and 25 will be amended, so that claims 1-5, 9-11, 13-19 and 21-25 will remain pending.

By the amendment herein, the claims have been amended to delete recitations pertaining to reactive perfluoroalkyl-(peroxy-) radical centers and radical reactions. Moreover, amide groups have been deleted from the claims.

Entry of the amendment herein is appropriate after final rejection, because the amendment is in response to issues raised for the first time in the Final Office Action, and seeks to advance prosecution for allowance by simplifying issues for consideration.

Reconsideration of the rejections of record, and allowance of the application in view of the following remarks are respectfully requested.

Information Disclosure Statement

Applicant expresses appreciation for the Examiner's confirmation of consideration of Applicant's Supplemental Information Disclosure Statement filed August 7, 2009 by including an initialed copy of the Form PTO-1449 submitted therewith with the Final Office Action.

In order that the record is complete, Applicant notes that the Examiner has not provided an English translation of FR 2494702 in Application No. 10/577,305 and the rejection based on this document has been withdrawn.

Art Based Rejections

The following rejections are set forth in the Final Office Action.

- (a) Claims 1-4, 7, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,129,617 to Machi et al. (hereinafter "Machi").
- (b) Claims 13-16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,129,617 to Machi
- (c) Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,129,617 to Machi as applied to claim 1.
- (d) Claims 18 and 21- 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,129,617 to Machi as applied to claim 13.
- (e) Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,129,617 to Machi as applied to claim 1, and further in view of US 2003/0199639 to Coates et al. (hereinafter "Coates").
- (f) Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,129,617 to Machi as applied to claim 13, and further in view of US 2003/0199639 to Coates.
- (g) Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,129,617 to Machi as applied to claim 13, and further in view of WO 99/61527 to Lehmann; wherein US Patent No. 6,770,378 is used as an English translation for purposes of citation.

Applicant submits that the claims are not anticipated by Machi and are not rendered obvious over Machi either taken alone or in view of Coates or Lehmann, for at least the reasons set forth below.

As noted above, claims 1 and 13 have been amended herein to delete recitations pertaining to reactive perfluoroalkyl-(peroxy-) radical centers and radical reactions. Thus, independent claim 1 is directed to a modified perfluoroplastic, comprising a perfluoropolymer including a surface radiation-chemically or plasma-chemically modified under influence of oxygen, the surface simultaneously having –COOH and/or –COF groups, and additional low-molecular and/or oligomeric and/or polymeric substances and/or olefinically unsaturated monomers and/or olefinically unsaturated oligomers and/or olefinically unsaturated polymers or mixtures thereof coupled via some or all of the groups, the coupling being via at least one of substitution reactions wherein at least one substance is coupled to ester bonds formed via reactions with the –COOH and/or –COF groups, and addition reactions.

Moreover, independent claim 13 is directed to a method for producing a modified perfluoroplastic comprising a perfluoropolymer including a surface radiation-chemically or plasma-chemically modified under influence of oxygen, the surface simultaneously having –COOH and/or –COF groups, and additional low-molecular and/or oligomeric and/or polymeric substances and/or olefinically unsaturated monomers and/or olefinically unsaturated oligomers and/or olefinically unsaturated polymers or mixtures thereof coupled via some or all of the groups, the coupling being via at least one of substitution reactions wherein at least one substance is coupled to ester bonds formed via reactions with the –COOH and/or –COF groups, and addition reactions, the method comprising reacting a perfluoropolymer that is radiation-chemically or plasma-chemically modified under influence of oxygen, which perfluoropolymers simultaneously exhibit –COOH and/or –COF groups, with low-molecular and/or oligomeric and/or polymeric substances and/or olefinically unsaturated monomers and/or olefinically unsaturated oligomers and/or olefinically unsaturated polymers by at least one of substitution

reactions wherein at least one substance is coupled to ester bonds formed via reactions with the –COOH and/or –COF groups and by addition reactions.

In contrast, in Machi fluoropolymers are grafted with monomers and polymers, wherein the fluoropolymers can be radiation chemically treated under the influence of oxygen. Machi assumes thereby that radicals are formed that are apparently used for grafting the monomers and polymers on the fluoropolymers. For examples, attention is directed to Machi, at column 2, line 35 to column 4, line 33.

Machi does not appear to teach or suggest modified perfluoroplastics, in which -COOH groups and/or -COF groups are present on radiation chemically modified perfluoropolymers and these are then coupled reactively to the low-molecular substances, monomers, oligomers and/or polymers via substitution reactions and/or addition reactions. The prior art of record does not provide any teaching or suggestion of modification of -COOH groups and/or -COF groups via substitution reactions and/or addition reactions. There is no teaching or suggestion in the prior art of record of the surface simultaneously having -COOH and/or -COF groups, and additional low-molecular and/or oligomeric and/or polymeric substances and/or olefinically unsaturated monomers and/or olefinically unsaturated oligomers and/or olefinically unsaturated polymers or mixtures thereof coupled via some or all of the groups. There is no teaching or suggestion in the prior art of record that -COOH groups and/or -COF groups forming during the radiation chemical modification of perfluoropolymers are bonded via substitution reactions and/or addition reactions.

Coates does not overcome the deficiencies of Machi. Coates is used in the rejection of claims 5 and 17 merely for an assertion that it would have been obvious that the perfluoropolymer of Machi could be polytetrafluoroethylene. However, whether or not one

having ordinary skill in the art would have combined the disclosures of Machi and Coates, and whether or not one having ordinary skill in the art would have included polytetrafluoroethylene in Machi, Applicant's claimed subject matter would not be at hand at least for the reasons set forth above.

Moreover, Lehmann is only used in the rejection of claim 19 in an attempt to establish the obviousness of using humid air in tempering of a fluoropolymer in Machi. However, whether or not one having ordinary skill in the art would have combined Machi and Lehmann in the manner asserted in the rejection, Applicant's claimed subject matter would not be present at least for the reasons set forth above.

Accordingly, neither of Coates nor Lehmann overcomes the deficiencies of Machi, and the rejections of record should be withdrawn.

Accordingly, for at least the reasons set forth above, the rejections of record should be withdrawn.

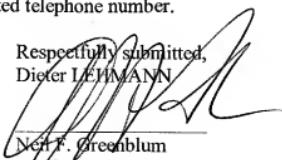
CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections of record, and allow each of the pending claims.

Applicant therefore respectfully requests that an early indication of allowance of the application be indicated by the mailing of the Notices of Allowance and Allowability.

Should the Examiner have any questions regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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